IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method for inspecting an insulating layer deposited or planarized on a substrate in fabrication processes of semiconductor with a library of optic images, the method comprising:

~~collecting~~ measuring ~~standard~~ thickness data ~~for thickness~~ of the insulating layer;

collecting standard data for an optic image of the insulating layer;

making a library by matching ~~standard~~ the measured thickness data ~~for the thickness~~ and the optic image collected on a same location on the substrate; and

~~inspecting~~ detecting a defect in the insulating layer with the library.

2. (Currently Amended) The method as defined by claim 1, wherein the ~~standard~~ thickness data ~~for the thickness~~ is data for a particular region or the whole of the wafer.

3. (Original) The method as defined by claim 1, wherein the standard data for the optic image is data for a particular region or the whole of the wafer.

4. (Original) The method as defined by claim 1, wherein the optic image is stored in analog or digital image.

5. (Previously Presented) The method as defined by claim 1, wherein making a library includes making a library such that each optic image for the region represented by each thickness data is determined and a continuous image library for each thickness is constructed.

6. (Currently Amended) A method for inspecting an insulating layer deposited or planarized on a substrate in fabrication processes of semiconductor with a library of optic images, the method comprising:

~~collecting~~ measuring a thickness ~~data~~ of the insulating layer at a plurality of locations on the substrate;

collecting an optic image ~~data~~ of the insulating layer for each of said plurality of locations on the substrate;

correlating the optic image ~~data~~ to the measured thickness ~~data~~ of the insulating layer for each of said plurality of locations;

creating a library by matching the optic image ~~data~~ to the thickness ~~data~~ of the insulating layer for each of said plurality of locations; and

~~inspecting~~ detecting a defect in the insulating layer ~~for each of said locations~~ with the library.

7. (New) A method for inspecting an insulating layer deposited or planarized on a substrate in fabrication processes of semiconductor with a library of optic images, the method comprising:

measuring a thickness of the insulating layer at a plurality of locations on the substrate;

obtaining an image of the insulating layer at each of said plurality of locations on the substrate;

correlating the image to the measured thickness of the insulating layer for each of said plurality of locations;

creating a library by matching the image to the thickness of the insulating layer for each of said plurality of locations; and

using the library to detect a defect in the insulating layer at the plurality of locations.